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In re Application of:

TONY GERARD ROSE

Application No.: 09/523,313

Filed: March 10, 2000

For: DATA DISPLAY APPARATUS AND
     DATA DISPLAY METHOD

Corres. and Mail

BOX AF

Docket No. 01263.000805

Examiner: M. Filipczyk

Group Art Unit: 2171

Date: January 2, 2004 (Monday)

Mail Stop AF
THE COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, VA 22313-1450

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Technology Center 2100

Sir:

Transmitted herewith is an Amendment in the above-identified application.

| x | No additional fee is required.

The fee has been calculated as shown below

CLAIMS AS AMENDED						
	(2) CLAIMS REMAINING AFTER AMENDMENT		(4) HIGHEST NO. PREVIOUSLY PAID FOR	(5) PRESENT EXTRA	RATE	ADDITIONAL FEE
TOTAL CLAIMS	286	MINUS	286	= 0	x $9 $18	0
INDEP. CLAIMS	19	MINUS	19	= 0	x $43 $86	0
Fee for Multiple Dependent claims $145°/$290						
			TOTAL ADDITIONAL FEE FOR THIS AMENDMENT---			0

  *   If the entry in Column 2 is less than the entry in Column 4, write "0" in Column 5.
  **   If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, write "20" in this space.
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☐ Verified Statement claiming small entity status is enclosed, if not filed previously.

☐ A check in the amount of $_____ is enclosed.

☐ Charge $_____ to Deposit Account No. 06-1205. A duplicate copy of this sheet is enclosed.

☒ Any prior general authorization to charge an issue fee under 37 C.F.R. 1.18 to Deposit Account No. 06-1205 is hereby revoked. The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. 1.16 and 1.17 which may be required during the entire pendency of this application, or to credit any overpayment, to Deposit Account No. 06-1205. A duplicate copy of this paper is enclosed.

☐ A check in the amount of $_____ to cover the fee for a _____ month extension is enclosed.

☐ A check in the amount of $_____ to cover the Information Disclosure Statement fee is enclosed.

☒ Applicants' undersigned attorney may be reached in our Costa Mesa, California office by telephone at (714) 540-8700. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

_____
Attorney for Applicants

Registration No. _____ 32622

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3800
Facsimile: (212) 218-2200

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Page 2 of 2

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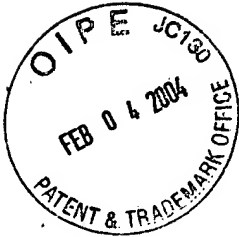
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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	:	Examiner: Marcin R. Filipczyk
TONY GERARD ROSE	)	
	:	Group Art Unit: 2171
Application No.: 09/523,313	)	
	:	
Filed: March 10, 2000	)	
	:	
For: DATA DISPLAY	)	
APPARATUS AND DATA	:	
DISPLAY METHOD	)	February 2, 2004 (Monday)

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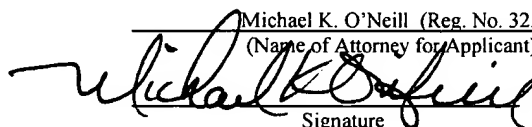Alexandria, VA 22313-1450

RESPONSE TO FINAL OFFICIAL ACTION

Sir:

This application has been carefully reviewed in light of the Office Action

dated October 31, 2003 (Paper No. 15). Claims 49 to 62 and 68 to 88 are presented for

examination, of which Claims 49, 52, 55, 58, 61, 62, 84, 85 and 86 are independent.

Reconsideration and further examination are respectfully requested.

Claims 49 to 62 and 68 to 88 were rejected under 35 U.S.C. § 102(e) over U.S. Patent No. 6,243,093 (Czerwinski). The rejections are respectfully traversed.

The present invention relates to displaying relationships between sets of data. The present invention utilizes similarity values that indicate the similarity between the sets of data. One aspect of the present invention lies in controlling the display to display representations of the sets of data that are separated in accordance with the similarity values. Another aspect of the present invention lies in displaying links between the representations in accordance with the similarity values. In this way, a user can easily identify what sets of data are similar or dissimilar, based on their separation or based on the types of links used.

With specific reference to the claims, independent Claim 49 recites a data display apparatus for displaying the relationships between sets of data. The display apparatus comprises data receiving means for receiving sets of data and similarity values for similarity between the sets of data, and display control means for controlling display means to display representations for the sets of data separated in accordance with the similarity values and to display links between the representations in accordance with the similarity values.

Independent Claims 52 and 84 are method and apparatus claims, respectively, that correspond generally to independent Claim 49.

The applied art is not seen to disclose or suggest the features of independent Claims 49, 52 and 84, and in particular, is not seen to disclose or suggest at least the features of controlling display means to display representations for the sets of data

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separated in accordance with the similarity values and to display links between the representations in accordance with the similarity values.

Czerwinski relates to a graphical user interface in which object thumbnails are rendered on a simulated three-dimensional surface. The objects can be manipulated by a user on the simulated three-dimensional surface with the use of a two-dimensional input device, such as a mouse. Czerwinski further teaches that the object thumbnails can be clustered when they are arranged close to each other by the user. In another mode, Czerwinski teaches the use of a matching algorithm to determine whether certain objects are related. Czerwinski teaches the use of visual indicators, such as colored halos around related objects, to show the relationship between objects.

The Office Action takes the position that Czerwinski teaches the claimed feature of controlling display means to display representations for the sets of data separated in accordance with the similarity values. Applicant respectfully disagrees.

Czerwinski teaches two representation modes in which the object thumbnails can be displayed. One mode utilizes a proximity cluster determination process 268 to cluster object thumbnails based on proximity (column 20, lines 15-22). Czerwinski teaches that this representation mode is different from matching performed by the implicit query process 264, in that the proximity cluster determination process 268 is only concerned with where a user has placed an object (column 20, lines 30-35). In other words, Czerwinski's proximity clustering is only based on a particular user's idiosyncratic arrangement of the object thumbnails; the thumbnails themselves may be dissimilar in

terms of subject matter, keywords, or content of the objects to which they refer. Thus, Czerwinski's proximity clustering is not based on similarity values.

In another representation mode, Czerwinski teaches the use of an implicit query process 264 (column 18, lines 8-15). This process utilizes matching algorithms or heuristics based on stored topic, keywords, or contents of the thumbnail object to determine objects that are related to a certain "active" object (column 18, lines 10-17). The degree to which objects match, as determined by implicit query process 264, is depicted with the use of visual indicators (column 18, lines 50-65). Czerwinski teaches the following visual indicators: horizontal bar meters (Figs. 11A, 11D, 11E, 11I, 11J), segmented horizontal bar meters (Fig. 11B), horizontal slope bar meters (Fig. 11C), pie meters (Fig. 11F), dial meters (Fig. 11G), numbered tabs (Fig. 11H), coloring schemes (Figs. 11K, 12D-12F), heigh indicators (Figs. 11L-11M), or vertical bar meters (Fig. 11N).

In addition, Czerwinski teaches that objects that do not meet a predetermined match threshold can be displayed as being dissimilar to an "active" object. Czerwinksi teaches that these dissimilar objects can be darkened (Fig. 11O), blurred (Fig. 11P), made translucent (Fig. 11Q), colored by a gradient function (Fig. 11R-11S), skewed (Fig. 11T), or have a corner folded (Fig. 11U).

While Czerwinski teaches the use of the above-mentioned visual indicators to show the degree to which object thumbnails match or do not match an active object, Czerwinski makes no mention of controlling display means to display representations for the sets of data separated in accordance with similarity values. In fact, the only process in which Czerwinski mentions that object thumbnails can be grouped by proximity (i.e.

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separated), is the proximity cluster determination process 268. However, as explained above, this process does not make use of Czerwinski's matching algorithms, nor does it use any similarity values. In fact, Czerwinski expressly teaches that "the proximity cluster determination process 268 is only concerned with where a user has placed an object" (column 20, lines 33-35). Therefore, Czerwinski is not seen to teach or suggest controlling display means to display representations for the sets of data separated in accordance with the similarity values.

Furthermore, Czerwinski is not seen to teach or suggest displaying links between the representations in accordance with the similarity values. As discussed above, Czerwinski discusses several visual indicators that may be used to show the degree to which object thumbnails match an "active" object in accordance with the output of a matching algorithm. However, Czerwinski makes no mention of the use of links as visual indicators of similarity. Czerwinski does teach the use of links as historical markers of previously proximately located objects (column 21, lines 1-10, Figs. 12E-12F). However, as discussed above, the proximity determination process 268 of Czerwinski only clusters objects in response to user input, and does not cluster based on the output of matching algorithms or similarity values.

As such, Czerwinski is not seen to teach or suggest controlling display means to display representations for the sets of data separated in accordance with the similarity values and to display links between the representations in accordance with the similarity values. Accordingly, based on the foregoing remarks, independent Claims 49, 52 and 84 are believed to be allowable over the applied references.

In another aspect of the invention, the present invention utilizes the feature of calculating an arrangement of representations for the sets of data on the display means so that the arrangement spaces the representations according to similarity values. The invention controls the display means to display the arrangement of the representations that had been calculated.

With specific reference to the claims, independent Claim 55 recites a data display apparatus for displaying the relationships between sets of data. The data display apparatus comprises data receiving means for receiving sets of data and similarity values for similarity between the sets of data. The apparatus further comprises arrangement calculation means for calculating an arrangement of representations for the sets of data on display means, in which arrangement the representations are spaced according to the similarity values. The apparatus also comprises display control means for controlling the display means to display the arrangement of the representations, and user selection means for allowing a user to select and move one of the representations. The arrangement calculation means is operable to recalculate the arrangement of the representations following movement of one of the representations.

Independent Claims 58, 61, 62, 85 and 86 are method and apparatus claims, respectively, that correspond generally to independent Claim 55. In particular, each of independent Claims 55, 58, 61, 62, 85 and 86 contain the features of calculating arrangements of representations based on similarity values and controlling display means to display the representations.

The applied art is not seen to disclose or suggest the features of independent Claims 55, 58, 61, 62, 85 and 86, and in particular, is not seen to disclose or suggest at least the features of calculating an arrangement of representations according to the similarity values and controlling the display means to display the arrangement of representations.

As discussed above, Czerwinski teaches that object thumbnails can be diplayed in clusters based on user preference, or can be displayed with visual indicators based on the output of a matching algorithm. Czerwinksi is not seen to teach or suggest controlling a display to separate object thumbnails based on their similarity values. In addition, Czerwinski is not seen to teach or suggest calculating an arrangement of object thumbnails based on their similarity values.

As such, Czerwinski is not seen to teach or suggest calculating an arrangement of representations according to the similarity values and controlling the display means to display the arrangement of representations. Accordingly, based on the foregoing remarks, independent Claims 55, 58, 61, 62, 85 and 86 are believed to be allowable over the applied references.

The other claims in the application are each dependent from the independent claims and are believed to be allowable over the applied reference for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

Finally, though not applied to the claims, the Office Action also indicated that U.S. Patent 6,211,876 (Ackerman) teaches the claimed matter of the present invention. Applicant respectfully invites the Examiner to enter a rejection over Ackerman if he believes that one is warranted. For his part, Applicant does not believe that a rejection is warranted, as explained in more detail below.

Ackerman relates to a method and system for displaying icons representing information items stored in a database. Specifically, Ackerman concerns providing access to an experience journal which includes unstructured text items relating to a topic search. Ackerman suggests that icons representing text objects may be displayed on a display relative to one another such that the differences between the icons are representative of determined similarities among the unstructured text items. (Ackerman, column 4, lines 53-67). However, Ackerman is not seen to disclose or suggest controlling display means to display links between the representations in accordance with similarity values as required by indpendent Claims 49, 52, and 84.

Furthermore, Ackerman is not seen to teach or suggest that the arrangement of representations can be recalculated following the movement of one the representations as required by independent Claims 55, 58 and 85. Also, Ackerman is not seen to teach or suggest iteratively calculating separation of displayed representations from starting separations to target separations corresponding to similarity values and controlling display means to display the representations at time sequential states while the separation is being iteratively calculated, as required by independent Claims 61, 62 and 86. As such, Ackerman is not seen to teach the claimed matter of the present invention.

An Information Disclosure Statement dated January 22, 2004 has been filed to cite art from a corresponding European application. Consideration of the cited art is respectfully requested.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicant's undersigned attorney may be reached in our Costa Mesa, California1 office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

Attorney for Applicant

Registration No. 32622

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-2200
Facsimile: (212) 218-2200